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REMARKS

This is a request for reconsideration in response to the final rejection dated June 2, 2004. Consideration of these remarks is respectfully requested.

Claims 1, 2, 8 and 10 were rejected as anticipated by the Turner et al. Patent No. 4,338,097.

It is the explanation of the Turner reference in the Official Action of June 2, 2004 that is believed to be incorrect. An explanation of the showing in Turner is provided herein, and it is respectfully requested that the Examiner follow through this explanation, because it is believed it will show that the reference is not in anticipation of claim 1.

The Official Action indicated that Turner "discloses an apparatus (monitoring probe, column 2, line 66-column 3, line 44) for monitoring the effect of a material of exposure to a fluid, said apparatus comprising a sensor element (7a in Figures 2-3) formed as a closed ring (complete ring, column 2, lines 33-34) of the material (thin rings machined from a sample of the pipe, column 3, lines 9-13)". The Examiner is respectfully requested to review the full sentence that starts on column 2, line 30 and goes to line 34, wherein it states:

"The thickness of the test element may be monitored by any suitable method, e.g., by ultrasonics, vibrational frequency measurement and induction impedance measurement in which case an element in the form of a complete ring may be employed". (emphasis added)

The test monitoring techniques that are mentioned in relation to a "complete ring" are only ultrasonics, vibrational frequency measurement and induction impedance measurement. This is NOT electrical resistance measurement, the measurement technique that is specifically claimed in claim 1. The "resistance monitor coupled to monitor changes in electrical resistance in said ring sensor element" as specified as the last phrase of claim

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1 is not met by the teachings of the Turner et al. patent.

When electrical resistance of the test element in Turner is being measured, the two ends of the ring shaped element are not connected, and therefore, there is no closed ring. Accordingly, Turner does not describe both a sensor element formed as a closed ring, and an electrical resistance monitor coupled to monitor changes in electrical resistance in the ring sensor element, as required by claim 1.

In response to Applicant's arguments, the Official Action highlighted column 1, lines 59-61 of Turner, stating "the test element extends around all...the pipe interior cross section". Further, as shown in Figure 4, and described in column 4, lines 1-9, this arrangement is achieved by making a test element as a helix with overlapping ends, but the ends are not connected to one another, and therefore do not form a closed ring. Using electrical resistance monitoring, a test element formed as a closed ring of the material simplifies the manufacturer of the test element, since it can be cut simply and quickly from a section of the pipe to be tested, as is specified in claim 1.

The Official Action also indicated that column 3, lines 9-11 of the Turner patent suggested machining the test element from the interior surface of a sample of the pipe. Such elements are difficult to manufacture (being machined from the interior of the pipe), and there is no way that can be discerned in which a closed ring could be machined from an interior surface of a pipe. Machining an interior surface means that there is material being removed from the interior surface, it is respectfully submitted.

In summary, it is respectfully requested that the Examiner consider these remarks, and indicate claim 1 as not being anticipated by the Turner et al. patent, and is patentable over Turner, because the teachings in Turner do not include the structure of claim 1 which has the resistance monitor coupled to monitor changes in electrical resistance in said ring sensor

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element. The ring sensor element is formed as a "closed" ring of the material in claim 1, specifically.

Favorable action and allowance is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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